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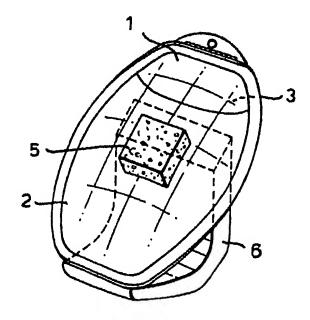
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(54) Title: AIR FRESHENER OR INSECTICIDAL DEVICE

(57) Abstract

An air freshener or insecticidal device which comprises at least one chamber containing a liquid fragrance or insecticide, said chamber having a wall of a material which enables the vapours of the fragrance or insecticide to diffuse into the environment in which the device is placed, and an adhesive pad for attaching the device to a surface such that said wall faces, away from and is spaced apart from said surface.



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Air Freshener or Insecticidal Device

The present invention relates to an air freshener or insecticidal device which contains a liquid fragrance or insecticide.

Devices for perfuming ambient air and enclosed spaces which contain a liquid fragrance and have a wall of a material which enables the vapours of the fragrance to diffuse into the environment are known, for example, from US-A-4,634,614. Figure 6 shows a device in which the fragrance is held in a container with a lid made of a material which enables the vapours of the fragrance to diffuse out. In use the container is simply placed on a horizontal surface.

Devices for perfuming ambient air and enclosed spaces which contain a liquid fragrance absorbed on a substrate are also known. The device typically allows the fragrance to diffuse into the environment through vents in the side thereof. Since it is not possible to see whether there is any liquid fragrance remaining in the substrate, a consumer does not have a visible end-of-life indication.

An air freshener device is also known which comprises a gelled fragrance held within a container having vents positioned at the front. The gelled fragrance is visible through the vents which provides an end-of-life indication.

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The present invention provides an air freshener or insecticidal device which comprises at least one chamber containing a liquid fragrance or insecticide, said chamber having a wall of a material which enables the vapours of the fragrance or insecticide to diffuse into the environment in which the device is placed, and an

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adhesive pad for attaching the device to a surface such that said wall is spaced apart from said surface.

Said wall may face said surface, but preferably, the wall faces away from the surface.

By having the wall facing away from and spaced apart from the surface, it has been found that the diffusion of vapours into the environment is enhanced.

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Advantageously, the wall is positioned such that the chamber containing the fragrance is positioned between the wall and said surface. In this way, diffusion of the fragrance or insecticide into the environment is not impeded by the position of the chamber.

Preferably, the device is adapted to be positioned during use in an orientation such that the liquid fragrance or insecticide is always in contact with at least part of said wall throughout the useful life of the device.

Since the liquid fragrance or insecticide is always in contact with at least part of the wall, we have surprisingly found that a more constant release of fragrance or insecticide can be achieved. It is postulated, although we are not bound by this theory, that the wall may have a wicking action which draws the liquid up so that it is spread throughout the wall before it diffuses into the environment.

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The device can be adapted to be placed in an appropriate orientation by a number of different means. A single device may have one or more than one for example two or three of these means.

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A first means comprises a stand which enables the device

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to be placed in the desired orientation when the device is placed on a horizontal surface. Thus, the device may comprise a stand such that when the device is in use said wall is vertical or inclined from the vertical.

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Preferably the wall is inclined at up to 30°, for example, from 10° to 20° from the vertical. The stand may be integral or separate from the device.

10 Advantageously, the device further comprises a hook or other attachment means to attach the device to. For example, a clothes rail or other similar surface. This will allow the device to be place in, for example, a wardrobe and allow diffusion of fragrance and/or insecticide to clothes hanging in the wardrobe.

The permeable wall which allows the fragrance or insecticide to diffuse into the environment may be made of any suitable material. For example, a polyolefin. The wall may, in particular, be that described in US A 4 634 614.

In order to prevent the device from releasing fragrance or insecticide before it is used, said wall may be covered by an impermeable sheet which is removed before the device is used. For example, the sheet may simply be peeled off the wall or otherwise removed and discarded. The sheet may be made of, for example, a metal such as aluminium. Alternatively a number of vents may be provided to allow for an adjustable release of the perfume or insecticide.

Figures 1 and 2 illustrate an embodiment of a device of the present invention.

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The device of the present invention is such that a user can easily be provided with a visible end-of-life indication. The back of the device positioned away from said wall and the surface to which the device is applied and adjacent said wall can be transparent such that the level of the fragrance or insecticide in the device can easily be seen.

Alternatively, when the device comprises stand, the stand is preferably made of a transparent material such that the fragrance or insecticide in the device can easily be seen thus also providing a user with a visible end of life indication. Equally, if the device comprises means to hang the device, the hanging means such as a hook may also usefully be fabricated from a transparent material.

It has been found, however, that some fragrances or insecticides may damage or mark some surfaces. However, since the wall faces away from the surface on which the device is applied, the risk of damage to the surface is minimised.

The adhesive pad may be positioned on the front of the device such that it does not cover all of a front surface of the device. For example the pad may be place only at the top or only at the bottom of the device.

Alternatively, it may be placed towards the centre of the device. Alternatively, two or more pads may be used for example, one may be place at the top and one placed at the bottom of the device, or one on either side of the device or any other permutation which is convenient.

Embodiments of the invention will now be further described by way of example only with reference to the accompanying drawings in which:

Figure 1 is the schematic representation of a first embodiment of an air freshener or insecticidal device according to the present invention and;

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Figure 2 is a schematic representation of a second embodiment of an air freshener according to the invention showing the device attached to a wall of a room.

- 10 Figures 1 and 2 show two embodiments of an air freshener device according to the present invention. The two embodiments are very similar to each other as will be described herein below, and therefore the same reference numeral has been used to refer to similar parts of the
- two embodiments. In both embodiments the device 1 comprises a chamber 2 containing a liquid fragrance having a rear wall 3 made of a material which enables the vapours of the fragrance to diffuse into the environment. The rear wall 3 may be covered by an impermeable sheet
- 20 (not shown) which must be removed before the device is used. The front surface of the chamber 2 is made of a transparent material such as a transparent plastics material which enables easy inspection of the level of the fragrance in the chamber 2 from the front of the
- 25 device 1. This provides a visible end-of-life indication.

The embodiment shown in figure 1 shows the device 1 positioned in a stand 6. The stand 6 allows the chamber 2 to be positioned at an angle such that the liquid fragrance within the chamber is always in contact with the rear wall 3 of the chamber 2.

In the embodiment shown in figure 2 the stand 6 has been removed from the device 1. However, it is also envisaged that similar embodiment of the device could allow the

device to be attached to the wall 7 by means of the adhesive pad 5 without having to remove the stand 6 from the device 1.

Referring now to figure 2, the front surface 4 of the chamber 2 has attached thereto an adhesive pad 5 which allows the device to be attached to a surface such as a wall, as will be described herein below. In the illustrated embodiment of the invention, the adhesive pad is formed from a transparent material. However, in other uses different materials, may be appropriate. Such as those which are not transparent.

Because the adhesive pad 5 is positioned on a front
surface 4 of the chamber 2, the device 1 may be attached
to a vertical surface 7 such as a wall in a room of a
house in such a way that the rear wall 3 faces away from
the vertical surface 7 and faces into the room. This
enhances the diffusion, into the atmosphere of the
fragrance contained within the chamber 2.

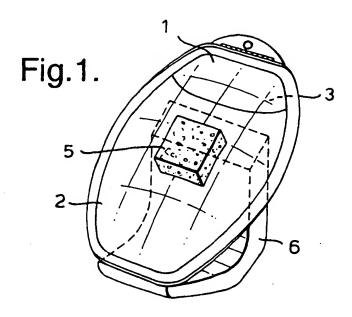
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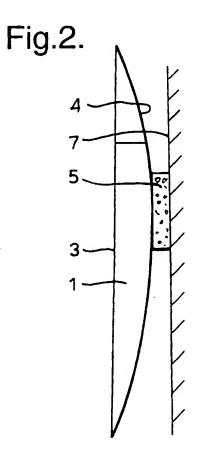
- 1. An air freshener or insecticidal device which comprises at least one chamber containing a liquid fragrance or insecticide, said chamber having a wall of a material which enables the vapours of the fragrance or insecticide to diffuse into the environment in which the device is placed, and an adhesive pad for attaching the device to a surface such that said wall is spaced apart from said surface.
- A device according to claim 1 wherein the wall faces
 away from the surface.
- 3. A device according to claim 2 wherein the wall is positioned such that the chamber containing the fragrance is positioned between the wall and said surface.
 - 4. A device according to any one of the preceding claims which also comprises a stand and/or a hook.
- 25 5. A device according to any one of the preceding claims in which said wall is made of a polyolefin.
- 6. A device according to any one of the preceding claims where in said wall is covered by an impermeable sheet which is removed before the device is used.
- 7. A device according to any one of the preceding claims wherein the side of the device positioned on the opposite side from said wall is transparent such that the amount of liquid fragrance or insecticide

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remaining can be seen.

- 8. A device according to any one of the preceding claims which device is adapted to be positioned during use in an orientation such that the liquid fragrance or insecticide is always in contact with at least part of said wall throughout the useful life of the device.
- 10 9. A device according to claim 8 wherein the wall is inclined at up to 30°, for example from 10° to 20° from the vertical.





INTERNATIONAL SEARCH REPORT

Inter. mail Application No PCT/GB 00/01600

a. CLASSIFICATION OF SUBJECT MATTER IPC 7 A61L9/12 A01M1/20

According to International Patent Classification (IPC) or to both national classification and IPC

B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols) IPC 7 A61L A01M

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Electronic data base consulted during the international search (name of data base and, where practical, search terms used)

EPO-Internal, WPI Data, PAJ

C DOCUM	ENTS CONSIDERED TO BE RELEVANT	·
		T
Category °	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	EP 0 645 081 A (CELAFLOR GMBH) 29 March 1995 (1995-03-29) column 3, line 6 - line 17 column 4, line 11 - line 37; claims; figures	1-7
X	US 4 161 283 A (HYMAN SY) 17 July 1979 (1979-07-17) column 5, line 16 - line 33; figures	1-7
Α	US 4 634 614 A (HOLZNER GUENTER) 6 January 1987 (1987-01-06) cited in the application claims; figures	1-9
A	GB 2 251 601 A (MOWBRAY GEORGE M) 15 July 1992 (1992-07-15) claims; figures	1-9
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X Further documents are listed in the continuation of box C.	X Patent family members are listed in armex.
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C.(Continu	ation) DOCUMENTS CONSIDERED TO BE RELEVANT	PCT/GB 00/01600			
ategory °		Relevant to claim No.			
		The Class Ho.			
	US 4 130 245 A (BRYSON JOHN D) 19 December 1978 (1978-12-19)	1			
	claims				
	US 5 219 121 A (FOX RODNEY T ET AL)	,			
	15 June 1993 (1993-06-15)	1			
	figures				
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INTERNATIONAL SEARCH REPORT

Information on patent family members

Inter anal Application No PCT/GB 00/01600

Р	atent document	<u> </u>	Publication		Patent family	Publication
	ed in search repo		date		member(s)	date
FP	0645081	A	29-03-1995	FR	2710495 A	07.04.1005
L .	0043001	^	29 03 1993	CA	2132912 A	07-04-1995
						29-03-1995
			•	US	5711955 A	27-01-1998
				US	5948423 A	07-09-1999
US	4161283	Α	17-07-1979	US	4285468 A	25-08-1981
US	4634614	Α	06-01-1987	СН	. 662736 A	30-10-1987
				AU	566182 B	08-10-1987
				AU	2349084 A	02-08-1984
				BE	898675 A	13-07-1984
		,		BR	8404703 A	26-12-1984
				CA	1230048 A	08-12-1987
				WO	8402654 A	
				DE		19-07-1984
				DE	3490012 C	14-01-1993
			•		3490012 T	24-01-1985
	•			FR	2539492 A	20-07-1984
				GB	2149664 A,B	19-06-1985
	•			IT	1173003 B	18-06-1987
				JP	4025022 B	28-04-1992
				JP	60500321 T	14-03-1985
				MX	· 159166 A	26-04-1989
				NL	189110 B	17-08-1992
				NL	8420001 T	03-12-1984
GB	2251601	Α	15-07-1992	NON		
US	4130245	Α	19-12-1978	AU	4027478 A	03-04-1980
• -		.,		DE	2841669 A	05-04-1979
				FR	2404575 A	27-04-1979
				GB	2005141 A,B	
				JP	54070416 A	19-04-1979
		•		NZ	188534 A	06-06-1979
					100334 A	15-05-1981
US!	5219121	Α	15-06-1993	GB	2236677 A	17-04-1991
				IL	95478 A	31-08-1995
			•	AP	159 A	15-11-1991
			•	AT	122897 T	15-06-1995
				BR	9007591 A	30-06-1992
				CA	2065398 A	27-02-1991
				DD	297065 A	02-01-1992
				DE	69019750 D	29-06-1995
				DE	69019750 T	18-01-1996
				EP	0489069 A	10-06-1992
				ËS	2075213 T	01-10-1995
				WO	9102549 A	07-03-1991
				GR	90100631 A,B	
				ΙE	68522 B	30-12-1991
						26-06-1996
				JP	5502800 T	20-05-1993
				NO	920522 A	10-02-1992
				NZ	234940 A	25-02-1993
				PT ZA	95087 A 9006746 A	30-04-1992
						26-06-1991